REMARKS

Applicant request reconsideration and allowance based upon the foregoing amendments and following remarks. Claims 1-48 are pending with claims 1, 12, 23, 33 and 43 being independent. Claims 1, 12, 23, 33 and 43 have been amended. No new claims are added. No claims were cancelled.

§ 102 rejections

Claims 1, 2, 4, 7-13, 15, 18-24, 26, 29, 31-38, 40 and 43-48 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,491,631 to Shirane et al. (hereinafter "Shirane"). Applicant respectfully traverses these rejections and, for the following reasons, requests that the Office withdraw these rejections.

Claim 1 has been amended and as amended (portions of the amendment appear in bold italics) recites a method comprising:

- *collecting, on a computer maintained within a vehicle, data from a plurality of systems of the vehicle, wherein the plurality of systems:*
  - *include a diagnostics system providing one or more diagnostic codes; and*
  - *each is connected to the computer by a respective interface; and*
- generating, *on the computer,* an explanation of a vehicle condition based on *at least one said* vehicle diagnostics code comprising a set of symbols, *wherein the explanation combines data collected from the diagnostic system with data collected from at least one other said system .*

Support for the amendment may be found throughout the specification and drawings as filed, examples of which may be found at page 9 of the Specification and FIG. 3.

Shirane describes a "Fault diagnostic system for vehicles using identification and program codes". *Shirane, Title.* A memory stores a vehicle identifier code which enables identification of a vehicle carrying the same type of electronic control unit (ECU) correspondingly to an ECU identification code (ECU-ID) and display means for displaying the vehicle identifier code is displayed on the basis of the ECU-ID provided by an ECU, and a predetermined fault diagnostic program corresponding to the vehicle identifier code is selected and initiated in response to the input of a verification signal of the displayed vehicle identifier code. When a plurality of faulty parts of a vehicle are detected, a priority table is referred to and fault codes corresponding to the plurality of faulty parts are displayed with priority. *Shirane, Abstract.*

Shirane further describes an ECU component (*Ref No. 1 in FIG.* 2) having a ECU-ID and a vehicle identification number (VIN). A separate fault diagnostic system (*Ref. No. 2 in FIG. 2*) is used to retrieve fault data from the ECU. The ECU-ID or VIN number is used by the diagnostic system to select from among many diagnostic programs. Applicant understands this to mean the ECU is within a specific vehicle and that the fault diagnostics system is separate from the vehicle and used with many vehicles. The following excerpted portion of Shirane further illustrates that the diagnostic system is not maintained within a vehicle rather is directed for use with many vehicles:

> The signal taken in from ECU 1 through cable 5 and the
> signal obtained at test probe 6 are processed on the program

and/or control data stored in ROM 21 and RAM 22, and the processing result or fault diagnostic result is output to display device 27. **To provide for optimal fault diagnosis for many types of vehicles, a plurality of fault diagnostic programs are previously prepared and registered in ROM 21.** *Shirane col. 8, lines 36-44.*

It appears clear from the above portion that Shirane is directed towards a fault diagnostic system which is separate from the vehicle itself. As the excerpted portion indicates, the system of Shirane is for use with many types vehicles. Further, the data processing occurs "on the program and/or control data stored in ROM 21 and RAM 22" e.g., in the fault diagnostic system separate from the vehicle.

Further, the external diagnostic system receives unprocessed fault data from the ECU and performs the diagnostics. For instance, Shirane describes:

> . . .fault information including a fault code and fault data is automatically read out from fault information storage means 53 of ECU 1 and stored in RAM 22 in fault diagnostic system 2. The fault code is a part identification code for identifying the fault portion, and fault data is, for instance, the output signal (voltage value) of a sensor.

> . . . the optimum fault diagnostic program corresponding to the fault code is selected from ROM 21 of fault diagnostic system 2. The fault diagnostic program provides work instructions for identifying a faulty portion, the faulty portion and faulty state corresponding to the work instructions, and a reference value serving as the criterion for judging the fault. *Shirane, col. 18, line 52 – col. 19 line 4.*

Thus, Shirane describes fault data transferred from an ECU of a vehicle to an external fault diagnostic system (e.g. not maintained in the vehicle) where an

identifier (VIN) of an ECU is used to select a diagnostic program and the fault data is processed.

However, Shirane fails to disclose the recited features of amended claim 1. Shirane for instance is silent on "collecting, on a computer maintained within a vehicle, data from a plurality of systems of the vehicle". Further, Shirane is silent as to a "computer maintained within a vehicle" and a plurality of vehicle systems "wherein . . . each of the plurality of systems is connected to the computer by a respective interface". Still further, Shirane fails to disclose generating on the computer an explanation of a diagnostic code "wherein the explanation combines data collected from the diagnostic system with data collected from at least one other said system". Shirane does not teach or suggest these recited features of claim 1. Accordingly, claim 1 is not anticipated by Shirane, and withdrawal of the §102 rejection is requested.

Claims 2-11 depend directly or indirectly from claim 1 and are allowable at least based upon this dependency as well as for their own recited features which the references of record do not teach or suggest.

Claim 12 has been amended and as amended (portions of the amendment appear in bold italics) recites a computer-readable medium having stored thereon a computer program having executable instructions for performing a process comprising:

- *collecting, on a computer maintained within a vehicle, data from a plurality of systems of the vehicle; wherein the plurality of systems includes:*
  - *a diagnostics system providing one or more diagnostic codes; and*
  - *a global positioning satellite (GPS) system providing vehicle location data; and*

- generating a deciphered explanation of *at least one said* vehicle diagnostics code *wherein the explanation combines data collected from the diagnostic system with vehicle location data collected from the GPS system.*

Shirane fails to disclose the features of claim 12 as amended for reasons discussed with respect to claim 1. Shirane for example fails to disclose "collecting, on a computer maintained within a vehicle, data from a plurality of systems of the vehicle". As discussed previously the diagnostic system of Shirane is not maintained within the vehicle. Further, Shirane is silent on "a global positioning satellite (GPS) system" or an explanation "wherein the explanation includes data collected by the computer from the vehicle diagnostic system and the GPS" as recited in claim 12. Shirane does not teach or suggest these recited features of claim 12. Accordingly, claim 12 is not anticipated by Shirane, and withdrawal of the §102 rejection is requested.

Claims 13-22 depend directly or indirectly from claim 12 and are allowable at least based upon this dependency as well as for their own recited features which the references of record do not teach or suggest.

Claim 23 has been amended and as amended (portions of the amendment appear in bold italics) recites a vehicle comprising:

- *a vehicle diagnostic system;*
- *one or more other vehicle systems; and*
- a computer *communicatively coupled to the vehicle diagnostic system and the one or more other systems via respective interfaces, wherein the computer is configured to:*
  - *collect data from a plurality of said vehicle systems; and*

- generate a deciphered explanation of a vehicle diagnostics code.

Shirane fails to disclose the features of claim 23 as amended for reasons discussed with respect to claim 1. For instance, the system of Shirane is not a vehicle-based system. Further, Shirane fails to disclose a vehicle having "a vehicle diagnostic system" and "one or more other vehicle systems". Since Shirane describes a non vehicle-based diagnostic system, Shirane is silent on a vehicle having a "computer communicatively coupled to the vehicle diagnostic system and the one or more other systems via respective interfaces, wherein the computer is configured to: collect data from a plurality of said vehicle systems; and generate a deciphered explanation of a vehicle diagnostics code" as recited in claim 23. Shirane does not teach or suggest these recited features of claim 23. Accordingly, claim 23 is not anticipated by Shirane, and withdrawal of the § 102 rejection is requested.

Claims 24-32 depend directly or indirectly from claim 23 and are allowable at least based upon this dependency as well as for their own recited features which the references of record do not teach or suggest.

Claim 33 has been amended and as amended (portions of the amendment appear in bold italics) recites a vehicle-based system comprising:

- a diagnostics receiver module receiving a vehicle diagnostics code from a vehicle diagnostics system, the vehicle diagnostics code including a set of one or more symbols and corresponding to a vehicle condition;

- *one or more interfaces corresponding to one or more other vehicle systems and configured to receive vehicle systems data from a respective vehicle system; and*
- means for generating an explanation of the vehicle condition based on the vehicle diagnostics code, *wherein the explanation combines data from the vehicle diagnostics system and at least one said other vehicle system.*

Shirane fails to disclose the features of claim 33 as amended for reasons discussed with respect to claim 1. Shirane as previously discussed, does not teach a "vehicle-based system". Shirane also fails to disclose "one or more interface corresponding to one or more other vehicle system and configured to receive vehicle systems data from a respective vehicle system" as recited in claim 33. Further, Shirane fails disclose an explanation "wherein the explanation combines data from the vehicle diagnostics system and at least one said other vehicle system" as also recited in claim 33. Shirane does not teach or suggest these recited features of claim 33. Accordingly, claim 33 is not anticipated by Shirane, and withdrawal of the §102 rejection is requested.

Claims 34-42 depend directly or indirectly from claim 33 and are allowable at least based upon this dependency as well as for their own recited features which the references of record do not teach or suggest.

Claim 43 has been amended and as amended (portions of the amendment appear in bold italics) recites a method comprising:

- receiving, *on a vehicle based computer,* a vehicle diagnostics code from a vehicle diagnostics system, the vehicle diagnostics code including a set of one or more symbols and corresponding to a vehicle condition;

- *receiving vehicle systems data from one or more other vehicle systems; and*
- retrieving an explanation of the vehicle condition based on the vehicle diagnostics code; *wherein the explanation combines data from the vehicle diagnostics system and at least one said other vehicle system.*

Shirane fails to disclose the features of claim 43 as amended for reasons discussed with respect to claim 1. Shirane for example is silent on "receiving, on a vehicle based computer, vehicle systems data from one or more other vehicle system; as recited in claim 43. Shirane as previously discussed, does not teach a vehicle-based system. Further, Shirane fails disclose an explanation "wherein the explanation combines data from the vehicle diagnostics system and at least one said other vehicle system" as also recited in claim 43. Shirane does not teach or suggest these recited features of claim 43. Claim 43 is allowable for at least these reasons and withdrawal of the §102 rejection is respectfully requested.

Claims 44-48 depend directly or indirectly from claim 43 and are allowable at least based upon this dependency as well as for their own recited features which the references of record do not teach or suggest.

For at least the foregoing reasons, claims 1-48 are not anticipated by Shirane and withdrawal of the rejections of these claims is respectfully requested.

§ 103 rejections

Claims 3, 14, 25 and 41 are rejected 35 U.S.C. §103(a) as being unpatentable over Shirane in view of U.S. Patent No. 6,212,449 to Wellman et al. (hereinafter "Wellman").

Wellman describes a "diagnosis system for materials handling vehicles leads service personnel step-by-step through diagnosis and repair of faults within the vehicle. Faults are assigned corresponding event codes so that when a fault is detected, its corresponding event code is displayed . . . The event code is used to access diagnosis information identifying the portion of the vehicle wherein the malfunction has occurred, the components which caused the malfunction and, preferably, provides a pictogram of that portion of the vehicle. *Wellman, Abstract*

However, Wellman fails to correct the defects in Shirane previously discussed with respect to claims 1, 12, 23, 33 and 43. For example, Wellman fails to teach or suggest "collecting, on a computer maintained within a vehicle, data from a plurality of systems of the vehicle" or "wherein the explanation combines data collected from the diagnostic system with data collected from at least one other system" as recited in claim 1. Claims 3, 14, 25 and 41 depend respectively from one of independent claims 1, 12, 23, 33 and 43 and are allowable at least based on this dependency. Thus, Applicant respectfully requests withdrawal of the §103 rejection of these claims.

Claims 5, 6, 16, 17, 27 and 28 are rejected 35 U.S.C. §103(a) as being unpatentable over Shirane in view of U.S. Patent No. 6,370,454 to Moore. (hereinafter "Moore").

Moore describes "a method and apparatus for the maintenance of mechanized equipment such as an automobile is disclosed. Various sensors located within the automobile provide information to an on-board computing device, a personal digital assistant, or a local computing device which are networkable to a network such as the Internet. The information may be transferred across the network, and service obtained appropriately. Information located in

various remote servers relating to the performance and service of the vehicle may be downloaded across the network and easily used in servicing and maintaining the vehicle. Optionally, the apparatus includes a notification system, such as an email system, for notifying of, scheduling, and/or paying for services." *Moore. Abstract.*

However, Moore fails to correct the defects in Shirane previously discussed with respect to claims 1, 12, 23, 33 and 43. For example, Moore fails to teach or suggest an explanation "wherein the explanation combines data collected from the diagnostic system with vehicle systems vehicle location data collected from the GPS system" as recited in claim12 or "wherein the explanation combines data from the vehicle diagnostics system and at least one said other vehicle system as recited in claim 33. Claims 5, 6, 16, 17, 27 and 28 depend respectively from one of independent claims 1, 12, 23, 33 and 43 and are allowable at least based on this dependency. Thus, Applicant respectfully requests withdrawal of the §103 rejection of these claims.

Claims 30 and 39 are rejected 35 U.S.C. §103(a) as being unpatentable over Shirane in view of U.S. Patent No. 6,2789,19 to Hwang et al. (hereinafter "Hwang").

Hwang describes an "apparatus for diagnosing and indicating operational failure in automobiles includes a diagnostic circuit for receiving signals input through wiring at both ends of each fuse and wiring of a relay in a fuse box or junction box installed in an automobile and diagnosing operation failure by detecting a change in the logic value of the input signal, and an output device for receiving the result of diagnosis from the diagnostic circuit and outputting signals indicating the location of a defective fuse or relay. *Hwang, Abstract.*

However, Hwang fails to correct the defects in Shirane previously discussed with respect to claims 1, 12, 23, 33 and 43. For example, Hwang fails to teach or suggest an explanation "wherein the explanation combines data collected from the diagnostic system with vehicle systems vehicle location data collected from the GPS system" as recited in claim12, or "wherein the explanation combines data from the vehicle diagnostics system and at least one said other vehicle system as recited in claim 33. Claims 30 and 39 depend respectively from one of independent claims 1, 12, 23, 33 and 43 and are allowable at least based on this dependency. Thus, Applicant respectfully requests withdrawal of the §103 rejection of these claims.

In addition, Applicant respectfully reminds the Examiner that a modification proposed by the Office cannot render the reference unsatisfactory for its intended purpose. Further, the modification proposed by the Office cannot change a principle of operation of a reference. Specifically, *MPEP §2143.01* entitled "Suggestion or Motivation To Modify the References" instructs as follows:

THE PROPOSED MODIFICATION CANNOT RENDER THE PRIOR ART UNSATISFACTORY FOR ITS INTENDED PURPOSE

If proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. In re Gordon, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984) (Claimed device was a blood filter assembly for use during medical procedures wherein both the inlet and outlet for the blood were located at the bottom end of the filter assembly, and wherein a gas vent was present at the top of the filter assembly. The prior art reference taught a liquid

strainer for removing dirt and water from gasoline and other light oils wherein the inlet and outlet were at the top of the device, and wherein a pet-cock (stopcock) was located at the bottom of the device for periodically removing the collected dirt and water. The reference further taught that the separation is assisted by gravity. The Board concluded the claims were prima facie obvious, reasoning that it would have been obvious to turn the reference device upside down. The court reversed, finding that if the prior art device was turned upside down it would be inoperable for its intended purpose because the gasoline to be filtered would be trapped at the top, the water and heavier oils sought to be separated would flow out of the outlet instead of the purified gasoline, and the screen would become clogged.).

"Although statements limiting the function or capability of a prior art device require fair consideration, simplicity of the prior art is rarely a characteristic that weighs against obviousness of a more complicated device with added function." In re Dance, 160 F.3d 1339, 1344, 48 USPQ2d 1635, 1638 (Fed. Cir. 1998) (Court held that claimed catheter for removing obstruction in blood vessels would have been obvious in view of a first reference which taught all of the claimed elements except for a "means for recovering fluid and debris" in combination with a second reference describing a catheter including that means. The court agreed that the first reference, which stressed simplicity of structure and taught emulsification of the debris, did not teach away from the addition of a channel for the recovery of the debris.).

THE PROPOSED MODIFICATION CANNOT CHANGE THE PRINCIPLE OF OPERATION OF A REFERENCE

If the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims prima facie obvious. In re Ratti, 270 F.2d 810, 123 USPQ 349 (CCPA 1959) (Claims were directed to an oil seal comprising a bore engaging portion with outwardly biased resilient spring fingers inserted in a resilient sealing member. The primary reference relied upon in a rejection based on a combination of references disclosed an oil seal wherein the bore engaging portion was

reinforced by a cylindrical sheet metal casing. Patentee taught the device required rigidity for operation, whereas the claimed invention required resiliency. The court reversed the rejection holding the "suggested combination of references would require a substantial reconstruction and redesign of the elements shown in [the primary reference] as well as a change in the basic principle under which the [primary reference] construction was designed to operate." 270 F.2d at 813, 123 USPQ at 352.). *MPEP § 2143.01*
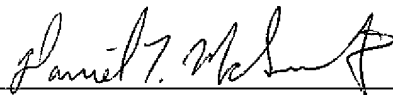
As previously described, Shirane is directed to a fault system external to a vehicle, and operable with many different vehicles. Accordingly, Shirane may not be combined to produce a vehicle based fault diagnostic system. Such a system is contrary to the teachings of Shirane and would render Shirane unfit for its intended purpose and/or alter the principle of operation of Shirane.

Conclusion

For at least the foregoing reasons claims 1-48 are allowable and furtherance to issuance is respectfully requested.

Respectfully Submitted,

Dated: 2/13/06   By: _____

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